Need for Adequacy and Compliance Review Criteria

10 CFR 830 includes the following:

10 CFR 830.207(c)	10 CFR 830.207(c) If the safety basis for a hazard category 1, 2, or 3 existing DOE nuclear facility already **meets the requirements of this Subpart and reflects the current work and hazards associated with the facility**, the contractor responsible for the facility must, by April 9, 2001, notify DOE, **document the adequacy** of the existing safety basis and request DOE to issue a safety evaluation report that approves the existing safety basis. If DOE does not issue a safety evaluation report by October 10, 2001, the contractor must submit a safety basis pursuant to paragraph (a) of this section.
10 CFR 830, Appendix A2, E.2	10 CFR 830, Appendix A2, E.2. As part of the approval process, DOE will review the content and quality of the safety basis documentation. DOE intends to use the approval process to **assess the adequacy of a safety basis** developed by a contractor to ensure that workers, the public, and the environment are provided reasonable assurance of adequate protection from identified hazards.
10 CFR 830, Appendix A, F.3	10 CFR 830, Appendix A, F.3. Because DOE has ultimate responsibility for the safety of its facilities, DOE will review each documented safety analysis to determine whether the rigor and detail of the documented safety analysis are appropriate for the complexity and hazards expected at the nuclear facility. In particular, DOE will evaluate the documented safety analysis by considering the extent to which the documented safety analysis **(1) satisfies the provisions of the methodology used to prepare the documented safety analysis and (2) adequately addresses the criteria set forth in 10 CFR 830.204(b)**. DOE will prepare a Safety Evaluation Report to document the results of its review of the documented safety analysis. A documented safety analysis must contain any conditions or changes required by DOE.

In view of these requirements and reflective of EM-1 expectation for a consistent review of safety basis at EM facilities, the use by EM contractors and DOE Field and Headquarters of the review criteria provided in this Attachment is recommended. These criteria were developed by a common effort contractors/DOE. The review criteria are reflective of the Rule requirements and of the DOE-STD-1104-96 used to date by EM facilities for the review of the safety bases documents. Tailoring these criteria for a specific DSA to better reflect a specific “safe harbor” or DOE-approved methodology is acceptable, as long that the new criteria are documented and ensure equivalent or better adequacy review.

DSA/TSR Adequacy Review Criteria

	Operation/Field/Area Office				
	Facility:				
	DSA identifier/title:				
	Hazard category:				
	Facility type, per 10 CFR 830, Subpart B, Appendix A, Table 2:				
	Facility remaining operational life:				
	Method used to prepare DSA (from 10 CFR 830, App. A, Table 2 or approved alternative)				
	The DSA: 1. Was issued on ……; 2. Was upgraded/streamlined on …..; 3. Last update DOE approved on …..; 4. Is new ..				
Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)/source of criterion	Criterion evaluation method (1)	Statement met? (Y/N or NA))	Open items? (Y/N) (2)
	1. Base information				
1.1	The facility contractor development and approval processes (e.g., personnel involvement in developing the DSA, management cognizance and acceptance, internal reviews) demonstrate sufficient commitment to establish the facility DSA.	DOE-STD-1104-96, 2.1			
1.2	The facility mission(s) and scope of operations for which DSA approval is being sought are clearly stated and reflected in the type and scope of operations analyzed in the DSA.	DOE-STD-1104-96, 2.1			
1.3	A description of the facility's life cycle stage, mission(s), and operation(s) is presented, including explanations of the impact on the DSA	DOE-STD-1104-96, 2.1			
1.4	Clear basis for and provisions of exemptions, consent agreements, and open issues are presented.	DOE-STD-1104-96, 2.1			
1.5	Descriptions of site, facilities and operational processes provide sufficient background material to understand the major elements of the safety analysis.	DOE-STD-1104-96, 2.1			
1.6	Correlation is established between actual facility arrangements and operations with those stated in the DSA.	DOE-STD-1104-96, 2.1			
1.7	The DSA satisfies the "safe harbor" methodology listed in 10 CFR 830, Appendix A, Table 2, appropriate for the type of facility, its activities, and its life cycle stage(s), or	830.204(a)			
1.8	The DSA uses a methodology that has received DOE approval or for which DOE approval is sought under the submittal requirement of 830.207.	830.204(a)			
1.9	The DSA describes the facility life cycle stage(s), mission(s), operations, and activities.	830.204(b)(1)			
1.10	The DSA describes the location of the site including its proximity to the public and to other facilities.	830.204(b)(1)			
1.11	The DSA describes the facility structure and its design basis if known.	830.204(b)(1)			
1.12	The DSA describes the design of SSCs relied on for safety in the analysis.	830.204(b)(1)			
1.13	The referenced facility documents are available for review.				
1.14	The facility/activities currently exist as described in the DSA.	CB			

DSA/TSR Adequacy Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)/source of criterion	Criterion evaluation method (1)	Statement met? (Y/N or NA))	Open items? (Y/N) (2)
	2. Hazard analysis				
2.1	The hazard analysis includes hazard identification that specifies or estimates the hazards relevant for DSA considerations in terms of type, quantity, and form, and also includes properly performed facility hazard classification.	DOE-STD-1104-96, 2.2			
2.2	The hazard analysis includes hazard evaluation that covers the activities for which the approval is sought, is consistent in approach with established industrial methodologies, identifies preventive and mitigative features for the spectrum of events examined, and identifies dominant accident scenarios through ranking.	DOE-STD-1104-96, 2.2			
2.3	The hazard analysis results are clearly characterized in terms of defense-in-depth, worker safety, and environmental protection. The logic behind assessing the results in terms of safety significant SSCs and designation of TSRs is understandable and internally consistent.	DOE-STD-1104-96, 2.2			
2.4	Subsequent accident analysis clearly substantiates the findings and delineations of hazard analysis for the subset of events examined and confirms their potential consequences. Events potentially exceeding evaluation guidelines need to clearly identify safety class SSCs and basis of TSR derivations.	DOE-STD-1104-96, 2.2			
2.5	The DSA presents a systematic identification of hazards and energy sources associated with the facility.	830.204(b)(2)			
2.6	The DSA presents a systematic identification of natural phenomena hazards associated with the facility.	830.204(b)(2)			
2.7	The DSA presents a systematic identification of sources of the external hazards associated with the facility.	830.204(b)(2)			
2.8	The DSA evaluates hazards and hazardous conditions for the identified hazards.	830.204(b)(3)			
2.9	The DSA presents the initial and final hazard categorization in accordance with the methodology of DOE-STD-1027, Ch. 1.	830.202(b)(3)			
2.10	The DSA systematically bins hazards or hazardous conditions to evaluate normal, abnormal, and accident conditions.	830.204(b)(3)			
2.11	The DSA evaluates a set of normal, abnormal, and accident conditions based on the results of the hazard evaluation and considering the need for analysis of accidents which may be beyond the design basis of the facility.	830.204(b)(3)			
2.12	The DSA presents those results of the hazard evaluation or accident analysis that establish basis for hazard controls based on the following: 1) significance of hazard to the safety of workers or the public, or 2) contribution to the generation or uncontrolled release of radioactive or hazardous materials.	830.204(b)(3)			
2.13	The identified hazards are consistent with facility information (MSDS, nuclear material control and accountability reports, as-built drawings).	SR			
2.14	The identified hazards are consistent with the information accumulated by physical walk-down of the facility.	SR			
2.15	The assumptions used in hazard analysis (initiating events, frequency estimated, material available for release, release fraction, meteorology, release duration, location of potentially exposed personnel or the public) are clearly presented.	SR			
2.16	A complete and documented rationale for concluding that the health and safety of the public and the workers are adequately protected is provided.	RP			
	3. Safety SSCs				

DSA/TSR Adequacy Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)/source of criterion	Criterion evaluation method (1)	Statement met? (Y/N or NA))	Open items? (Y/N) (2)
3.1	The safety SSCs identified and described are consistent with the logic presented in the hazard and accident analyses.	DOE-STD-1104-96, 2.3			
3.2	Safety functions for safety SSCs are defined with clarity and are consistent with the bases derived in the hazard and accident analyses.	DOE-STD-1104-96, 2.3			
3.3	Functional requirements and system evaluations are derived from the safety functions and provide evidence that the safety functions can be performed.	DOE-STD-1104-96, 2.3			
3.4	Control of safety SSCs relevant to TSRs development are clearly identified.	DOE-STD-1104-96, 2.3			
3.5	The DSA defines the safety SSCs as necessary to ensure adequate protection of workers, the public, and the environment.	830.204(b)(4)			
3.6	The DSA demonstrates the adequacy of the safety SSCs to eliminate, limit, or mitigate identified hazardous or accident conditions.	830.204(b)(4)			
3.7	The DSA defines the process for maintaining the safety SSCs current.	830.204(b)(4)			
3.8	The DSA defines the process for controlling the use of safety SSCs.	830.204(b)(4)			
3.9	The system discussions include auxiliaries, utilities, instrumentation, and control systems necessary for engineered safety functions to perform their functions under accident conditions.	RP			
3.10	The engineered safety features are described in sufficient detail to permit facility engineering, procurement, operations, and maintenance personnel to identify all safety design and configuration commitments.	RP			
	4. Derivation of TSRs				
4.1	The bases for deriving TSRs that are identified and described in the hazard and accident analyses and safety SSC chapters are consistent with the logic and assumptions presented in the analyses.	DOE-STD-1104-96, 2.4			
4.2	Bases for deriving safety limits, limiting control settings, limiting conditions for operation, surveillance requirements, and administrative controls are provided as appropriate.	DOE-STD-1104-96, 2.4			
4.3	The DSA derives the TSRs as necessary to ensure adequate protection of workers, the public, and the environment.	830.204(b)(4)			
4.4	The DSA demonstrates the adequacy of the TSRs to eliminate, limit, or mitigate identified hazardous or accident conditions.	830.204(b)(4)			
4.5	The DSA defines the process for maintaining the TSRs current.	830.204(b)(4)			
4.6	The DSA defines the process for controlling the use of TSRs.	830.204(b)(4)			
4.7	The proper hierarchy for selection of operational controls is used. The selection precedence for such controls should be:	DOE-STD-3009-94, Ch.1. A-9			
	Safety SSCs are preferred over administrative controls				
	Passive SSCs are preferred over active SSCs				
	Preventive controls are preferred over mitigative controls				

DSA/TSR Adequacy Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)/source of criterion	Criterion evaluation method (1)	Statement met? (Y/N or NA))	Open items? (Y/N) (2)
	Controls closer to the hazard may provide protection to both workers and the public				
	Facility safety SSCs are preferred over personal protective equipment				
4.8	For situations where the above selection hierarchy cannot be adhered to, the optimum approach for ensuring an adequate level of safety is clearly described.	SR			
	5. Programmatic control				
5.1	The major programs needed to provide programmatic safety management are identified.	DOE-STD-1104-96, 2.5			
5.2	Basic provisions of identified programs are noted and reference to facility or site program documentation are provided.	DOE-STD-1104-96, 2.5			
5.3	The DSA defines the characteristics of the safety management programs necessary to ensure the safe operation of the facility, including (where applicable) quality assurance, procedures, maintenance, personnel training, conduct of operations, emergency preparedness, protection, waste management, and radiation protection.	830.204(b)(5)			
5.4	The DSA contains overall programmatic description and facility specific elements.	830.204(b)(5)			
5.5	As applicable, the DSA defines a criticality safety program that ensures safe operation of the facility.	830.204(b)(6)			
5.6	The criticality safety program discusses the following topics:	RP			
	The criteria used to ensure subcritical situations in operations and storage under the worst credible conditions				
	The parameters used for the prevention and control of criticality for activities involving fissionable material				
	The application of the double contingency principle for criticality safety				
	The criticality safety design limits, their bases, and any design criteria used to ensure that criticality safety limits are not exceeded				
	The criteria for establishing verification				
5.7	The programs for document and configuration control, change control, occurrence and noncompliance reporting, staff selection, and qualification and training are adequately described.	RP			
	6. TSRs				
6.1	The TSRs are consistent with the expectations formulated in 10 CFR 830, App. A to Subpart B, Table 4.	830, B, App A, G.6			
6.2	The proposed minimum staffing levels including operations, emergency response, on-call, health physics, and engineering safety support are adequately addressed and justified.	RP			
	Notes:				
	(1) Potential evaluation methods:				
	a. In-process DSA review				

DSA/TSR Adequacy Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)/source of criterion	Criterion evaluation method (1)	Statement met? (Y/N or NA))	Open items? (Y/N) (2)
	b. Present DSA review				
	c. Procedure(s) review				
	d. Walk-down of certain areas of the facility				
	e. Personal interviews				
	f. (Partial) calculations				
	g. SSCs operating history review				
	(2) The list of potential open items will be attached. Each open item will be labeled with the corresponding review criterion number.				

Safety Basis (SB) 10 CFR 830 Compliance Review Criteria

	Operation/Field/Area Office					
	Facility:					
	DSA identifier/title:					
	Hazard category:					
	Facility type, per 10 CFR 830, Subpart B, Appendix A, Table 2:					
	Facility remaining operational life:					
	Method used to prepare DSA (from 10 CFR 830, App. A, Table 2 or approved alternative)					
	The DSA: 1. Was issued on ……; 2. Was upgraded/streamlined on …..; 3. Last update DOE approved on .….; 4. Is new ..					
Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)	Objective evidence, NA, or exemption request	Criterion evaluation method (1)	Statement met? (Y/N or NA)	Open items? (Y/N) (2)
	7. Compliance					
6.1	The SB uses definitions consistent with 10 CFR 830.3 and 10 CFR 830, App. B, Table 3.	830.3 and App.A, Table 3				
6.2	The use of exclusions, exemptions and DOE interpretations/technical positions are clearly identified.					
6.3	The use of graded approach is documented and sent to DOE.	830.7				
6.4	The SB documents are reflected in the facility policies, manuals, procedures, instructions.	830.201				
6.5	Processes to maintain SB current are in place.	830.202(a)				
6.6	The USQ process is documented in a procedure and the procedure is sent to DOE for approval.	830.203(b)				
6.7	The methodology used to prepare the documented safety analysis (if other than the corresponding safe harbor) is approved by DOE.	830.204(a)				
	Sec. 830.3 Definitions.					
6.8	(a) The following definitions apply to this part: see 10 CFR 830.3.	830.3(a)				
6.9	(b) Terms defined in the Act or in 10 CFR Part 820 and not defined in this section of the rule are to be used consistent with the meanings given in the Act or in 10 CFR Part 820.	830.3(b)				
	Sec. 830.4 General requirements.					
6.10	(a) No person may take or cause to be taken any action inconsistent with the requirements of this part.	830.4(a)				

Safety Basis (SB) 10 CFR 830 Compliance Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)	Objective evidence, NA, or exemption request	Criterion evaluation method (1)	Statement met? (Y/N or NA)	Open items? (Y/N) (2)
6.11	(b) A contractor responsible for a nuclear facility must ensure implementation of, and compliance with, the requirements of this part.	830.4(b)				
6.12	(c) The requirements of this part must be implemented in a manner that provides reasonable assurance of adequate protection of workers, the public, and the environment from adverse consequences, taking into account the work to be performed and the associated hazards.	830.4(c)				
6.13	(d) If there is no contractor for a DOE nuclear facility, DOE must ensure implementation of, and compliance with, the requirements of this part.	830.4(d)	Applicable for DOE			
	Sec. 830.5 Enforcement.					
6.14	The requirements in this part are DOE Nuclear Safety Requirements and are subject to enforcement by all appropriate means, including the imposition of civil and criminal penalties in accordance with the provisions of 10 CFR Part 820.	830.5				
	Sec. 830.6 Recordkeeping.					
6.15	A contractor must maintain complete and accurate records as necessary to substantiate compliance with the requirements of this part.	830.6				
	Sec. 830.7 Graded approach.					
6.16	Where appropriate, a contractor must use a graded approach to implement the requirements of this part, document the basis of the graded approach used, and submit that documentation to DOE. The graded approach may not be used in implementing the unreviewed safety question (USQ) process or in implementing technical safety requirements.	830.7				
	Subpart B--Safety Basis Requirements					
	Sec. 830.200 Scope.					
	This Subpart establishes safety basis requirements for hazard category 1, 2, and 3 DOE nuclear facilities.	830.200				
	Sec. 830.201 Performance of work.					

Safety Basis (SB) 10 CFR 830 Compliance Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)	Objective evidence, NA, or exemption request	Criterion evaluation method (1)	Statement met? (Y/N or NA)	Open items? (Y/N) (2)
6.17	A contractor must perform work in accordance with the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility and, in particular, with the hazard controls that ensure adequate protection of workers, the public, and the environment.	830.201				
	Sec. 830.202 Safety basis.					
6.18	(a) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must establish and maintain the safety basis for the facility.	830.202(a)				
	(b) In establishing the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility, the contractor responsible for the facility must:					
6.19	(1) Define the scope of the work to be performed;	830.202(b)(1)				
6.20	(2) Identify and analyze the hazards associated with the work;	830.202(b)(2)				
6.21	(3) Categorize the facility consistent with DOE-STD-1027-92 (``Hazard Categorization and Accident Analysis Techniques for compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports,'' Change Notice 1, September 1997);	830.202(b)(3)				
6.22	(4) Prepare a documented safety analysis for the facility; and	830.202(b)(4)				
6.23	(5) Establish the hazard controls upon which the contractor will rely to ensure adequate protection of workers, the public, and the environment.	830.202(b)(5)				
	(c) In maintaining the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility, the contractor responsible for the facility must:					
6.24	(1) Update the safety basis to keep it current and to reflect changes in the facility, the work and the hazards as they are analyzed in documented safety analysis;	830.202(c)(1)				
6.25	(2) Annually submit to DOE either the updated documented safety analysis for approval or a letter stating that there have been no changes in the documented safety analysis since the prior submission; and	830.202(c)(2)				
6.26	(3) Incorporate in the safety basis any changes, conditions, or hazard controls directed by DOE.	830.202(c)(3)				
	Sec. 830.203 Unreviewed safety question process.					
6.27	(a) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must establish, implement, and take actions consistent with a USQ process that meets the requirements of this section.	830.203(a)				

Safety Basis (SB) 10 CFR 830 Compliance Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)	Objective evidence, NA, or exemption request	Criterion evaluation method (1)	Statement met? (Y/N or NA)	Open items? (Y/N) (2)
6.28	(b) The contractor responsible for a hazard category 1, 2, or 3 DOE existing nuclear facility must submit for DOE approval a procedure for its USQ process by April 10, 2001. Pending DOE approval of the USQ procedure, the contractor must continue to use its existing USQ procedure. If the existing procedure already meets the requirements of this section, the contractor must notify DOE by A 10, 2001 and request that DOE issue an approval of the existing procedure.	830.203(b)				
6.29	(c) The contractor responsible for a hazard category 1, 2, or 3 DOE new nuclear facility must submit for DOE approval a procedure its USQ process on a schedule that allows DOE approval in a safety evaluation report issued pursuant to section 207(d) of this Part.	830.203(c)				
6.30	(d) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must implement the DOE-approved USQ procedure in situations where there is a:					
	(1) Temporary or permanent change in the facility as described in the existing documented safety analysis;	830.203(d)(1)				
	(2) Temporary or permanent change in the procedures as described in the existing documented safety analysis;	830.203(d)(2)				
	(3) Test or experiment not described in the existing documented safety analysis; or	830.203(d)(3)				
	(4) Potential inadequacy of the documented safety analysis because the analysis potentially may not be bounding or may be otherwise inadequate.	830.203(d)(4)				
6.31	(e) A contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must obtain DOE approval prior to taking any action determined to involve a USQ.	830.203(e)				
6.32	(f) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must annually submit to DOE a summary of the USQ determinations performed since the prior submission.	830.203(f)				
	(g) If a contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility discovers or is made aware of a potential inadequacy of the documented safety analysis, it must:					
6.33	(1) Take action, as appropriate, to place or maintain the facility in a safe condition until an evaluation of the safety of the situation is completed;	830.203(g)(1)				
6.34	(2) Notify DOE of the situation;	830.203(g)(2)				
6.35	(3) Perform a USQ determination and notify DOE promptly of the results; and	830.203(g)(3)				
6.36	(4) Submit the evaluation of the safety of the situation to DOE prior to removing any operational restrictions initiated to meet paragraph (g)(1) of this section.	830.203(g)(4)				
	Sec. 830.204 Documented safety analysis.					
6.37	(a) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must obtain approval from DOE for the methodology used to prepare the documented safety analysis for the facility unless the contractor uses a methodology set forth in Table 2 of Appendix A to this Part.	830.204(a)				
	(b) The documented safety analysis for a hazard category 1, 2, or 3 DOE nuclear facility must, as appropriate for the complexities and hazards associated with the facility:					

Safety Basis (SB) 10 CFR 830 Compliance Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)	Objective evidence, NA, or exemption request	Criterion evaluation method (1)	Statement met? (Y/N or NA)	Open items? (Y/N) (2)
6.38	(1) Describe the facility (including the design of safety structures, systems and components) and the work to be performed;	830.204(b)(1)				
6.39	(2) Provide a systematic identification of both natural and man-made hazards associated with the facility;	830.204(b)(2)				
6.40	(3) Evaluate normal, abnormal, and accident conditions, including consideration of natural and man-made external events, identification of energy sources or processes that might contribute to the generation or uncontrolled release of radioactive and other hazardous materials, and consideration of the need for analysis of accidents which may be beyond the design basis of the facility;	830.204(b)(3)				
6.41	(4) Derive the hazard controls necessary to ensure adequate protection of workers, the public, and the environment, demonstrate the adequacy of these controls to eliminate, limit, or mitigate identified hazards, and define the process for maintaining the hazard controls current at all times and controlling their use;	830.204(b)(4)				
6.42	(5) Define the characteristics of the safety management programs necessary to ensure the safe operation of the facility, including (where applicable) quality assurance, procedures, maintenance, personnel training, conduct of operations, emergency preparedness, protection, waste management, and radiation protection; and	830.204(b)(5)				
	(6) With respect to a nonreactor nuclear facility with fissionable material in a form and amount sufficient to pose a potential for criticality, define a criticality safety program that:					
6.43	(i) Ensures that operations with fissionable material remain subcritical under all normal and credible abnormal conditions,	830.204(b)(6)(I)				
6.44	(ii) Identifies applicable nuclear criticality safety standards, and	830.204(b)(6)(ii)				
6.45	(iii) Describes how the program meets applicable nuclear criticality safety standards.	830.204(b)(6)(iii)				
	Sec. 830.205 Technical safety requirements.					
	(a) A contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must:					
6.46	(1) Develop technical safety requirements that are derived from the documented safety analysis;	803.205(a)(1)				
6.47	(2) Prior to use, obtain DOE approval of technical safety requirements and any change to technical safety requirements; and	803.205(a)(2)				
6.48	(3) Notify DOE of any violation of a technical safety requirement.	803.205(a)(3)				
6.49	(b) A contractor may take emergency actions that depart from an approved technical safety requirement when no actions consistent with the technical safety requirement are immediately apparent, and when these actions are needed to protect workers, the public or the environment from imminent and significant harm. Such actions must be approved by a certified operator for a reactor or by a person in authority as designated in the technical safety requirements for nonreactor nuclear facilities. The contractor must report the emergency actions to DOE as soon as practicable.	803.205(b)				

Safety Basis (SB) 10 CFR 830 Compliance Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)	Objective evidence, NA, or exemption request	Criterion evaluation method (1)	Statement met? (Y/N or NA)	Open items? (Y/N) (2)
6.50	(c) A contractor for an environmental restoration activity may follow the provisions of 29 CFR 1910.120 or 1926.65 to develop the appropriate hazard controls (rather than the provisions for technical safety requirements in paragraph (a) of this section), provided the activity involves either:	803.205(c)				
	(1) Work not done within a permanent structure, or	803.205(c)(1)				
	(2) The decommissioning of a facility with only low-level residual fixed radioactivity.	803.205(c)(2)				
	Sec. 830.206 Preliminary documented safety analysis.					
	If construction begins after December 11, 2000, the contractor responsible for a hazard category 1, 2, or 3 new DOE nuclear facility a major modification to a hazard category 1, 2, or 3 DOE nuclear facility must:					
6.51	(a) Prepare a preliminary documented safety analysis for the facility, and	830.206(a)				
	(b) Obtain DOE approval of:					
6.52	(1) The nuclear safety design criteria to be used in preparing the preliminary documented safety analysis unless the contractor uses the design criteria in DOE Order 420.1, Facility Safety; and	830.206(b)(1)				
6.53	(2) The preliminary documented safety analysis before the contractor can procure materials or components or begin construction; provided that DOE may authorize the contractor to perform limited procurement and construction activities without approval of a preliminary documented safety analysis if DOE determines that the activities are not detrimental to public health and safety and are in the best interests of DOE.	830.206(b)(2)				
	Sec. 830.207 DOE approval of safety basis.					
6.54	(a) By April 10, 2003, a contractor responsible for a hazard category 1, 2, or 3 existing DOE nuclear facility must submit for DOE approval a safety basis that meets the requirements of this Subpart.	830.207(a)				
6.55	(b) Pending issuance of a safety evaluation report in which DOE approves a safety basis for a hazard category 1, 2, or 3 existing DOE nuclear facility, the contractor responsible for the facility must continue to perform work in accordance with the safety basis for the facility in effect on October 10, 2000, or as approved by DOE at a later date, and maintain the existing safety basis consistent with the requirements of this Subpart.	830.207(b)				
6.56	(c) If the safety basis for a hazard category 1, 2, or 3 existing DOE nuclear facility already meets the requirements of this Subpart and reflects the current work and hazards associated with the facility, the contractor responsible for the facility must, by April 9, 2001, notify DOE, document the adequacy of the existing safety basis and request DOE to issue a safety evaluation report that approves the existing safety basis. If DOE does not issue a safety evaluation report by October 10, 2001, the contractor must submit a safety basis pursuant to paragraph (a) of this section.	830.207(c)				

Safety Basis (SB) 10 CFR 830 Compliance Review Criteria

Review criterion #	Approval bases and the corresponding review criteria	Regulatory driver(s)	Objective evidence, NA, or exemption request	Criterion evaluation method (1)	Statement met? (Y/N or NA)	Open items? (Y/N) (2)
6.57	(d) With respect to a hazard category 1, 2, or 3 new DOE nuclear facility or a major modification to a hazard category 1, 2, or 3 DOE nuclear facility, a contractor may not begin operation of the facility or modification prior to the issuance of a safety evaluation report in which DOE approves the safety basis for the facility or modification.	830.207(d)				
	Notes:					
	(1) Potential evaluation methods:					
	a. In-process SB review					
	b. Present SB review					
	c. Procedure(s) review					
	d. Walk-down of certain areas of the facility					
	e. Personal interviews					
	f. (Partial) calculations					
	g. SSCs operating history review.					
	(2) The list of potential open items will be attached. Each open item will be labeled with the corresponding review criterion number.					

Hazardous Material / Energy Checklist

Y	N	A. Electrical
		1 Battery banks
		2 Cable runs
		3 Diesel generators
		4 Electrical equipment
		5 HVAC heaters
		6 High voltage
		7 Motors
		8 Pumps
		9 Power tools
		10 Switchgear
		11 Service outlets, fittings
		12 Transformers
		13 Transmission lines
		14 Underground wires
		15 Wiring
		16 Other ……

Y	N	B. Thermal
		1 Bunsen burner/hot plates
		2 Electrical equipment
		3 Furnaces/boilers/heaters
		4 Steam lines
		5 Welding torch/arc
		6 Diesel units/fire box/exhaust line
		7 Radioactive decay heat
		8 Exposed components
		9 Power tools
		10 Convective
		11 Solar
		12 Cryogenic
		13 Other ……

Y	N	C. Friction
		1 Belts
		2 Bearing
		3 Fans
		4 Gears
		5 Motors
		6 Power tools
		7 Other ……

Y	N	D. Corrosives
		1 Acids
		2 Caustics
		3 Natural chemicals
		4 Decon solution
		5 High temperature waste
		6 Other ……

Y	N	E. Kinetic - Rotational
		1 Centrifuges
		2 Motors
		3 Pumps
		4 Cooling tower fans
		5 Laundry equipment
		6 Shop equipment
		7 Other ……

Y	N	F. Kinetic - Linear
		1 Cars, trucks, buses
		2 Forklift, dollies, carts
		3 Railroad
		4 Obstructions
		5 Crane loads
		6 Pressure vessel blowdown
		7 Other ……

Y	N	G. Mass, Gravity, Height
		1 Human effort
		2 Stairs
		3 Lifts and cranes
		4 Bucket and ladder
		5 Trucks
		6 Slings
		7 Hoists
		8 Elevators
		9 Jacks
		10 Scaffold and ladders
		11 Pits and excavations
		12 Elevated doors
		13 Vessels
		14 Other ……

Y	N	H. Pressure - Volume
		1 Boilers
		2 Surge tanks
		3 Autoclave
		4 Test loops
		5 Gas bottles
		6 Pressure vessels
		7 Stressed components
		8 Gas receivers
		9 Negative pressure collapse
		10 Steam headers and lines
		11 Other ……

Y	N	J. Explosives, Pyrophorics
		1 Caps
		2 Primer cord
		3 Dynamite
		4 Scrub chemicals
		5 Dusts
		6 Hydrogen
		7 Gases, others
		8 Nitrates
		9 Peroxides
		10 Pu and U metal
		11 Sodium
		12 Other ……

Y	N	K. Nuclear Criticality
		1 Vaults
		2 Temporary storage areas
		3 Shipping and receiving areas
		4 Filters
		5 Casks
		6 Burial grounds
		7 Storage racks
		8 Canals and basins
		9 Decon solution
		10 Trucks, forklifts, dollies
		11 Hand carry
		12 Cranes, lifts
		13 Hot cells, assembly, inspection
		14 Laboratories
		15 Other ……

Y	N	L. Flammable materials
		1 Packing materials
		2 Rags
		3 Gasoline
		4 Lube oil
		5 Coolant oil
		6 Paint solvent
		7 Diesel fuel
		8 Building and contents
		9 Trailers and contents
		10 Grease
		11 Hydrogen
		12 Nitric acid
		13 Organics
		14 Gases - others
		15 Liquids - others
		16 Other ……

Y	N	M. Hazardous materials
		1 Alkali metals
		2 Asphyxiants
		3 Biologicals
		4 Carcinogens
		5 Corrosives
		6 Oxidizes
		7 Toxic
		8 Heavy metals
		9 Other ……

Y	N	N. Ionizing Radiation Sources
		1 Fissile material
		2 Radiography equipment
		3 Radioactive material
		4 Radioactive sources
		5 Other ……

Y	N	O. External Events
		1 Explosion
		2 Fire
		3 Airplane
		4 Helicopter
		5 Train
		6 Truck/bus/car
		7 Other ……

Y	N	P. Natural Phenomena
		1 Earthquake
		2 Flood
		3 Lightning
		4 Rain
		5 Snow, freezing water
		6 Straight wind
		7 Dust devil
		8 Tornado
		9 Ashfall
		10 Range fire
		11 Other ……

10 CFR 830, Safety Basis Requirements

PART 830--NUCLEAR SAFETY MANAGEMENT

Sec. 830.1 Scope.

This part governs the conduct of DOE contractors, DOE personnel, and other persons conducting activities (including providing items and services) that affect, or may affect, the safety of DOE nuclear facilities. 830.1

Sec. 830.2 Exclusions.

This part does not apply to:

(a) Activities that are regulated through a license by the Nuclear Regulatory Commission (NRC) or a State under an Agreement with the NRC, including activities certified by the NRC under section 1701 of the Atomic Energy Act (Act); 830.2(a)

(b) Activities conducted under the authority of the Director, Naval Nuclear Propulsion, pursuant to Executive Order 12344, as set forth in Public Law 106-65; 830.2(b)

(c) Transportation activities which are regulated by the Department of Transportation; 830.2(c)

(d) Activities conducted under the Nuclear Waste Policy Act of 1982, as amended, and any facility identified under section 202(5) of the Energy Reorganization Act of 1974, as amended; and 830.2(d)

(e) Activities related to the launch approval and actual launch of nuclear energy systems into space. 830.2(e)

Sec. 830.3 Definitions.

10 CFR 830, Safety Basis Requirements

(a) The following definitions apply to this part: 830.3(a)

Administrative controls means the provisions relating to organization and management, procedures, recordkeeping, assessment, and reporting necessary to ensure safe operation of a facility.

Bases appendix means an appendix that describes the basis of the limits and other requirements in technical safety requirements.

Critical assembly means special nuclear devices designed and used to sustain nuclear reactions, which may be subject to frequent core and lattice configuration change and which frequently may be used as mockups of reactor configurations.

Criticality means the condition in which a nuclear fission chain reaction becomes self-sustaining.

Design features means the design features of a nuclear facility specified in the technical safety requirements that, if altered or modified, would have a significant effect on safe operation.

Document means recorded information that describes, specifies, reports, certifies, requires, or provides data or results.

Documented safety analysis means a documented analysis of the extent to which a nuclear facility can be operated safely with respect to workers, the public, and the environment, including a description of the conditions, safe boundaries, and hazard controls that provide the basis for ensuring safety.

Environmental restoration activities means the process(es) by which contaminated sites and facilities are identified and characterized and by which contamination is contained, treated, or removed and disposed.

Existing DOE nuclear facility means a DOE nuclear facility in operation before April 9, 2001.

Fissionable materials means a nuclide capable of sustaining a neutron-induced chain reaction (e.g., uranium-233, uranium-235, plutonium-238, plutonium-239, plutonium-241, neptunium-237, americium-241, and curium-244).

Graded approach means the process of ensuring that the level of analysis, documentation, and actions used to comply with a requirement in this part are commensurate with:

(1) The relative importance to safety, safeguards, and security;
(2) The magnitude of any hazard involved;
(3) The life cycle stage of a facility;
(4) The programmatic mission of a facility;
(5) The particular characteristics of a facility;
(6) The relative importance of radiological and nonradiological hazards; and
(7) Any other relevant factor.

Hazard means a source of danger (i.e., material, energy source, or operation) with the potential to cause illness, injury, or death to a person or damage to a facility or to the environment (without regard to the likelihood or credibility of accident scenarios or consequence mitigation).

Hazard controls means measures to eliminate, limit, or mitigate hazards to workers, the public, or the environment, including

(1) Physical, design, structural, and engineering features;
(2) Safety structures, systems, and components;
(3) Safety management programs;
(4) Technical safety requirements; and
(5) Other controls necessary to provide adequate protection from hazards.

Item is an all-inclusive term used in place of any of the following: appurtenance, assembly, component, equipment, material, module, part, product, structure, subassembly, subsystem, system, unit, or support systems.

Limiting conditions for operation means the limits that represent the lowest functional capability or performance level of safety structures, systems, and components required for safe operations.

Limiting control settings means the settings on safety systems that control process variables to prevent exceeding a safety limit.

Low-level residual fixed radioactivity means the remaining radioactivity following reasonable efforts to remove radioactive systems, components, and stored materials. The remaining radioactivity is composed of surface contamination that is fixed following chemical cleaning or some similar process; a component of surface contamination that can be picked up by smears; or activated materials within structures. The radioactivity can be characterized as low-level if the smearable radioactivity is less than the values defined for removable contamination by 10 CFR Part 835, Appendix D, Surface Contamination Values, and the hazard analysis results show that no credible accident scenario or work practices would release the remaining fixed radioactivity or activation components at levels that would prudently require the use of active safety systems, structures, or compo to prevent or mitigate a release of radioactive materials.

Major modification means a modification to a DOE nuclear facility that is completed on or after April 9, 2001 that substantially changes the existing safety basis for the facility.

New DOE nuclear facility means a DOE nuclear facility that begins operation on or after April 9, 2001.

Nonreactor nuclear facility means those facilities, activities or operations that involve, or will involve, radioactive and/or fissionable materials in such form and quantity that a nuclear or a nuclear explosive hazard potentially exists to workers, the public, or the environment, but does not include accelerators and their operations and does not include activities involving only incidental use and generation of radioactive materials or radiation such as check and calibration sources, use of radioactive sources in research and experimental and analytical laboratory activities, electron microscopes, and X-ray machines.

Nuclear facility means a reactor or a nonreactor nuclear facility where an activity is conducted for or on behalf of DOE and includes any related area, structure, facility, or activity to the extent necessary to ensure proper implementation of the requirements established by this Part.

Operating limits means those limits required to ensure the safe operation of a nuclear facility, including limiting control settings and limiting conditions for operation.

Preliminary documented safety analysis means documentation prepared in connection with the design and construction of a new DOE nuclear facility or a major modification to a DOE nuclear facility that provides a reasonable basis for the preliminary conclusion that the nuclear facility can be operated safely through the consideration of factors such as

(1) The nuclear safety design criteria to be satisfied;
(2) A safety analysis that derives aspects of design that are necessary to satisfy the nuclear safety design criteria; and
(3) An initial listing of the safety management programs that must be developed to address operational safety considerations.

Process means a series of actions that achieves an end or result.

Quality means the condition achieved when an item, service, or process meets or exceeds the user's requirements and expectations.

Quality assurance means all those actions that provide confidence that quality is achieved.

Quality Assurance Program (QAP) means the overall program or management system established to assign responsibilities and authorities, define policies and requirements, and provide for the performance and assessment of work.

Reactor means any apparatus that is designed or used to sustain nuclear chain reactions in a controlled manner such as research, test, and power reactors, and critical and pulsed assemblies and any assembly that is designed to perform subcritical experiments that could potentially reach criticality; and, unless modified by words such as containment, vessel, or core, refers to the entire facility, including the housing, equipment and associated areas devoted to the operation and maintenance of one or more reactor cores.

Record means a completed document or other media that provides objective evidence of an item, service, or process.

Safety basis means the documented safety analysis and hazard controls that provide reasonable assurance that a DOE nuclear facility can be operated safely in a manner that adequately protects workers, the public, and the environment.

Safety class structures, systems, and components means the structures, systems, or components, including portions of process systems, whose preventive or mitigative function is necessary to limit radioactive hazardous material exposure to the public, as determined from safety analyses.

Safety evaluation report means the report prepared by DOE to document

(1) The sufficiency of the documented safety analysis for a hazard category 1, 2, or 3 DOE nuclear facility;
(2) The extent to which a contractor has satisfied the requirements of Subpart B of this part; and
(3) The basis for approval by DOE of the safety basis for the facility, including any conditions for approval.

Safety limits means the limits on process variables associated with those safety class physical barriers, generally passive, that are necessary for the intended facility function and that are required to guard against the uncontrolled release of radioactive materials.

Safety management program means a program designed to ensure a facility is operated in a manner that adequately protects workers, the public, and the environment by covering a topic such as: quality assurance; maintenance of safety systems; personnel training; conduct of operations; inadvertent criticality protection; emergency preparedness; fire protection; waste management; or radiological protection of workers, the public, and the environment.

Safety management system means an integrated safety management system established consistent with 48 CFR 970.5223-1.

Safety significant structures, systems, and components means the structures, systems, and components which are not designated as safety class structures, systems, and components, but whose preventive or mitigative function is a major contributor to defense in depth and/or worker safety as determined from safety analyses.

Safety structures, systems, and components means both safety class structures, systems, and components and safety significant structures, systems, and components.

Service means the performance of work, such as design, manufacturing, construction, fabrication, assembly, decontamination, environmental restoration, waste management, laboratory sample analyses, inspection, nondestructive examination/testing, environmental qualification, equipment qualification, repair, installation, or the like.

Surveillance requirements means requirements relating to test, calibration, or inspection to ensure that the necessary operability and quality of safety structures, systems, and components and their support systems required for safe operations are maintained, that facility operation is within safety limits, and that limiting control settings and limiting conditions for operation are met.

Technical safety requirements (TSRs) means the limits, controls, and related actions that establish the specific parameters and requisite actions for the safe operation of a nuclear facility and include, as appropriate for the work and the hazards identified in the documented safety analysis for the facility: Safety limits, operating limits, surveillance requirements, administrative and management controls, use and application provisions, and design features, as well as a bases appendix.

Unreviewed Safety Question (USQ) means a situation where

(1) The probability of the occurrence or the consequences of an accident or the malfunction of equipment important to safety previously evaluated in the documented safety analysis could be increased;

(2) The possibility of an accident or malfunction of a different type than any evaluated previously in the documented safety analysis could be created;

(3) A margin of safety could be reduced; or

(4) The documented safety analysis may not be bounding or may be otherwise inadequate.

Unreviewed Safety Question process means the mechanism for keeping a safety basis current by reviewing potential unreviewed safety questions, reporting unreviewed safety questions to DOE, and obtaining approval from DOE prior to taking any action that involves an unreviewed safety question.

Use and application provisions means the basic instructions for applying technical safety requirements.

(b) Terms defined in the Act or in 10 CFR Part 820 and not defined in this section of the rule are to be used consistent with the meanings given in the Act or in 10 CFR Part 820. 830.3(b)

Sec. 830.4 General requirements.

(a) No person may take or cause to be taken any action inconsistent with the requirements of this part. 830.4(a)

(b) A contractor responsible for a nuclear facility must ensure implementation of, and compliance with, the requirements of this part. 830.4(b)

(c) The requirements of this part must be implemented in a manner that provides reasonable assurance of adequate protection of workers, the public, and the environment from adverse consequences, taking into account the work to be performed and the associated hazards. 830.4(c)

(d) If there is no contractor for a DOE nuclear facility, DOE must ensure implementation of, and compliance with, the requirements of this part. 830.4(d)

Sec. 830.5 Enforcement.

The requirements in this part are DOE Nuclear Safety Requirements and are subject to enforcement by all appropriate means, including the imposition of civil and criminal penalties in accordance with the provisions of 10 CFR Part 820. 830.5

Sec. 830.6 Recordkeeping.

A contractor must maintain complete and accurate records as necessary to substantiate compliance with the requirements of this part.	830.6

Sec. 830.7 Graded approach.

Where appropriate, a contractor must use a graded approach to implement the requirements of this part, document the basis of the graded approach used, and submit that documentation to DOE. The graded approach may not be used in implementing the unreviewed safety question (USQ) process or in implementing technical safety requirements.	830.7

Subpart B--Safety Basis Requirements

Sec. 830.200 Scope.

This Subpart establishes safety basis requirements for hazard category 1, 2, and 3 DOE nuclear facilities.	830.200

Sec. 830.201 Performance of work.

A contractor must perform work in accordance with the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility and, in particular, with the hazard controls that ensure adequate protection of workers, the public, and the environment.	830.201

Sec. 830.202 Safety basis.

(a) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must establish and maintain the safety basis for the facility.	830.202(a)
(b) In establishing the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility, the contractor responsible for the facility must:	
(1) Define the scope of the work to be performed;	830.202(b)(1)
(2) Identify and analyze the hazards associated with the work;	830.202(b)(2)
(3) Categorize the facility consistent with DOE-STD-1027-92 (``Hazard Categorization and Accident Analysis Techniques for compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports," Change Notice 1, September 1997);	830.202(b)(3)
(4) Prepare a documented safety analysis for the facility; and	830.202(b)(4)
(5) Establish the hazard controls upon which the contractor will rely to ensure adequate protection of workers, the public, and the environment.	830.202(b)(5)
(c) In maintaining the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility, the contractor responsible for the facility must:	
(1) Update the safety basis to keep it current and to reflect changes in the facility, the work and the hazards as they are analyzed in the documented safety analysis;	830.202(c)(1)
(2) Annually submit to DOE either the updated documented safety analysis for approval or a letter stating that there have been no changes in the documented safety analysis since the prior submission; and	830.202(c)(2)
(3) Incorporate in the safety basis any changes, conditions, or hazard controls directed by DOE.	830.202(c)(3)

Sec. 830.203 Unreviewed safety question process.

(a) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must establish, implement, and take actions consistent with a USQ process that meets the requirements of this section.	830.203(a)
(b) The contractor responsible for a hazard category 1, 2, or 3 DOE existing nuclear facility must submit for DOE approval a procedure for its USQ process by April 10, 2001. Pending DOE approval of the USQ procedure, the contractor must continue to use its existing USQ procedure. If the existing procedure already meets the requirements of this section, the contractor must notify DOE by April 10, 2001 and request that DOE issue an approval of the existing procedure.	830.203(b)

(c) The contractor responsible for a hazard category 1, 2, or 3 DOE new nuclear facility must submit for DOE approval a procedure for its USQ process on a schedule that allows DOE approval in a safety evaluation report issued pursuant to section 207(d) of this Part.	830.203(c)
(d) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must implement the DOE-approved USQ procedure in situations where there is a:	
(1) Temporary or permanent change in the facility as described in the existing documented safety analysis;	830.203(d)(1)
(2) Temporary or permanent change in the procedures as described in the existing documented safety analysis;	830.203(d)(2)
(3) Test or experiment not described in the existing documented safety analysis; or	830.203(d)(3)
(4) Potential inadequacy of the documented safety analysis because the analysis potentially may not be bounding or may be otherwise inadequate.	830.203(d)(4)
(e) A contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must obtain DOE approval prior to taking any action determined to involve a USQ.	830.203(e)
(f) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must annually submit to DOE a summary of the USQ determinations performed since the prior submission.	830.203(f)
(g) If a contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility discovers or is made aware of a potential inadequacy of the documented safety analysis, it must:	
(1) Take action, as appropriate, to place or maintain the facility in a safe condition until an evaluation of the safety of the situation is completed;	830.203(g)(1)
(2) Notify DOE of the situation;	830.203(g)(2)
(3) Perform a USQ determination and notify DOE promptly of the results; and	830.203(g)(3)
(4) Submit the evaluation of the safety of the situation to DOE prior to removing any operational restrictions initiated to meet paragraph (g)(1) of this section.	830.203(g)(4)

Sec. 830.204 Documented safety analysis.

(a) The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must obtain approval from DOE for the methodology used to prepare the documented safety analysis for the facility unless the contractor uses a methodology set forth in Table 2 of Appendix A to this Part.	830.204(a)
(b) The documented safety analysis for a hazard category 1, 2, or 3 DOE nuclear facility must, as appropriate for the complexities and hazards associated with the facility:	
(1) Describe the facility (including the design of safety structures, systems and components) and the work to be performed;	830.204(b)(1)
(2) Provide a systematic identification of both natural and man-made hazards associated with the facility;	830.204(b)(2)
(3) Evaluate normal, abnormal, and accident conditions, including consideration of natural and man-made external events, identification of energy sources or processes that might contribute to the generation or uncontrolled release of radioactive and other hazardous materials, and consideration of the need for analysis of accidents which may be beyond the design basis of the facility;	830.204(b)(3)
(4) Derive the hazard controls necessary to ensure adequate protection of workers, the public, and the environment, demonstrate the adequacy of these controls to eliminate, limit, or mitigate identified hazards, and define the process for maintaining the hazard controls current at all times and controlling their use;	830.204(b)(4)
(5) Define the characteristics of the safety management programs necessary to ensure the safe operation of the facility, including (where applicable) quality assurance, procedures, maintenance, personnel training, conduct of operations, emergency preparedness, fire protection, waste management, and radiation protection; and	830.204(b)(5)
(6) With respect to a nonreactor nuclear facility with fissionable material in a form and amount sufficient to pose a potential for criticality, define a criticality safety program that:	
(i) Ensures that operations with fissionable material remain subcritical under all normal and credible abnormal conditions,	830.204(b)(6)(I)
(ii) Identifies applicable nuclear criticality safety standards, and	830.204(b)(6)(ii)
(iii) Describes how the program meets applicable nuclear criticality safety standards.	830.204(b)(6)(iii)

Sec. 830.205 Technical safety requirements.

10 CFR 830, Safety Basis Requirements

(a) A contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must:	
(1) Develop technical safety requirements that are derived from the documented safety analysis;	803.205(a)(1)
(2) Prior to use, obtain DOE approval of technical safety requirements and any change to technical safety requirements; and	803.205(a)(2)
(3) Notify DOE of any violation of a technical safety requirement.	803.205(a)(3)
(b) A contractor may take emergency actions that depart from an approved technical safety requirement when no actions consistent with the technical safety requirement are immediately apparent, and when these actions are needed to protect workers, the public or the environment from imminent and significant harm. Such actions must be approved by a certified operator for a reactor or by a person in authority as designated in the technical safety requirements for nonreactor nuclear facilities. The contractor must report the emergency actions to DOE as soon as practicable.	803.205(b)
(c) A contractor for an environmental restoration activity may follow the provisions of 29 CFR 1910.120 or 1926.65 to develop the appropriate hazard controls (rather than the provisions for technical safety requirements in paragraph (a) of this section), provided the activity involves either:	803.205(c)
(1) Work not done within a permanent structure, or	803.205(c)(1)
(2) The decommissioning of a facility with only low-level residual fixed radioactivity.	803.205(c)(2)

Sec. 830.206 Preliminary documented safety analysis.

If construction begins after December 11, 2000, the contractor responsible for a hazard category 1, 2, or 3 new DOE nuclear facility or a major modification to a hazard category 1, 2, or 3 DOE nuclear facility must:	
(a) Prepare a preliminary documented safety analysis for the facility, and	830.206(a)
(b) Obtain DOE approval of:	
(1) The nuclear safety design criteria to be used in preparing the preliminary documented safety analysis unless the contractor uses the design criteria in DOE Order 420.1, Facility Safety; and	830.206(b)(1)
(2) The preliminary documented safety analysis before the contractor can procure materials or components or begin construction; provided that DOE may authorize the contractor to perform limited procurement and construction activities without approval of a preliminary documented safety analysis if DOE determines that the activities are not detrimental to public health and safety and are in the best interests of DOE.	830.206(b)(2)

Sec. 830.207 DOE approval of safety basis.

(a) By April 10, 2003, a contractor responsible for a hazard category 1, 2, or 3 existing DOE nuclear facility must submit for DOE approval a safety basis that meets the requirements of this Subpart.	830.207(a)
(b) Pending issuance of a safety evaluation report in which DOE approves a safety basis for a hazard category 1, 2, or 3 existing DOE nuclear facility, the contractor respon for the facility must continue to perform work in accordance with the safety basis for the facility in effect on October 10, 2000, or as approved by DOE at a later date, and maintain the existing safety basis consistent with the requirements of this Subpart.	830.207(b)
(c) If the safety basis for a hazard category 1, 2, or 3 existing DOE nuclear facility already meets the requirements of this Subpart and reflects the current work and hazards associated with the facility, the contractor responsible for the facility must, by April 9, 2001, notify DOE, document the adequacy of the existing safety basis and request DOE to issue a safety evaluation report that approves the existing safety basis. If DOE does not issue a safety evaluation report by October 10, 2001, the contractor must submit a safety basis pursuant to paragraph (a) of this section.	830.207(c)
(d) With respect to a hazard category 1, 2, or 3 new DOE nuclear facility or a major modification to a hazard category 1, 2, or 3 DOE nuclear facility, a contractor may not begin operation of the facility or modification prior to the issuance of a safety evaluation report in which DOE approves the safety basis for the facility or modification.	830.207(d)

Appendix A to Subpart B to Part 830--General Statement of Safety Basis Policy

A. Introduction

10 CFR 830, Safety Basis Requirements

This appendix describes DOE's expectations for the safety basis requirements of 10 CFR Part 830, acceptable methods for implementing these requirements, and criteria D will use to evaluate compliance with these requirements. This Appendix does not create any new requirements and should be used consistently with DOE Policy 450.2A, AIdentifying, Implementing and Complying with Environment, Safety and Health Requirements" (May 15, 1996). 830, B, App A, A

B. Purpose

1. The safety basis requirements of Part 830 require the contractor responsible for a DOE nuclear facility to analyze the facility, the work to be performed, and the associated hazards and to identify the conditions, safe boundaries, and hazard controls necessary to protect workers, the public and the environment from adverse consequences. These analyses and hazard controls constitute the safety basis upon which the contractor and DOE rely to conclude that the facility can be operated safely. Performing work consistent with the safety basis provides reasonable assurance of adequate protection of workers, the public, and the environment. 830, B, App A, B.1

2. The safety basis requirements are intended to further the objective of making safety an integral part of how work is performed throughout the DOE complex. Developing a thorough understanding of a nuclear facility, the work to be performed, the associated hazards and the needed hazard controls is essential to integrating safety into management and work at all levels. Performing work in accordance with the safety basis for a nuclear facility is the realization of that objective. 830, B, App A, B.2

C. Scope

1. A contractor must establish and maintain a safety basis for a hazard category 1, 2, or 3 DOE nuclear facility because these facilities have the potential for significant radiological consequences. DOE-STD-1027-92 (``Hazard Categorization and Accident Analysis Techniques for compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports," Change Notice 1, September 1997) sets forth the methodology for categorizing a DOE nuclear facility (see Table 1). The hazard categorization must be based on an inventory of all radioactive materials within a nuclear facility. 830, B, App A, C.1

2. Unlike the quality assurance requirements of Part 830 that apply to all DOE nuclear facilities (including radiological facilities), the safety basis requirements only apply to hazard category 1, 2, and 3 nuclear facilities and do not apply to nuclear facilities below hazard category 3.

Table 1

A DOE nuclear facility categorized as hazard category 1 has the potential for significant off-site consequences.

A DOE nuclear facility categorized as hazard category 2 Has the potential for Significant on-site consequences beyond localized consequences.

A DOE nuclear facility categorized as hazard category 3 Has the potential for Only local significant consequences.

A DOE nuclear facility categorized as Below category 3 Has the potential for Only consequences less than those that provide a basis for categorization as a hazard category 1, 2, or 3 nuclear facility.

D. Integrated Safety Management

1. The safety basis requirements are consistent with integrated safety management. DOE expects that, if a contractor complies with the Department of Energy Acquisition Regulation (DEAR) clause on integration of environment, safety, and health into work planning and execution (48 CFR 970.5223-1, Integration of Environment, Safety and Health into Work Planning and Execution) and the DEAR clause on laws, regulations, and DOE directives (48 CFR 970.5204-2, Laws, Regulations and DOE Directives), the contractor will have established the foundation to meet the safety basis requirements. 830, B, App A, D.1

2. The processes embedded in a safety management system should lead to a contractor establishing adequate safety bases and safety management programs that will meet the safety basis requirements of this Subpart. Consequently, the DOE expects if a contractor has adequately implemented integrated safety management, few additional requirements will stem from this Subpart and, in such cases, the existing safety basis prepared in accordance with integrated safety management provisions, including existing DOE safety requirements in contracts, should meet the requirements of this Subpart.	830, B, App A, D.2
3. DOE does not expect there to be any conflict between contractual requirements and regulatory requirements. In fact, DOE expects that contract provisions will be used to provide more detail on implementation of safety basis requirements such as preparing a documented safety analysis, developing technical safety requirements, and implemen USQ process.	830, B, App A, D.3

E. Enforcement of Safety Basis Requirements

1. Enforcement of the safety basis requirements will be performance oriented. That is, DOE will focus its enforcement efforts on whether a contractor operates a nuclear facility consistent with the safety basis for the facility and, in particular, whether work is performed in accordance with the safety basis.	830, B, App A, E.1
2. As part of the approval process, DOE will review the content and quality of the safety basis documentation. DOE intends to use the approval process to assess the adequacy of a safety basis developed by a contractor to ensure that workers, the public, and the environment are provided reasonable assurance of adequate protection from identified hazards. Once approved by DOE, the safety basis documentation will not be subject to regulatory enforcement actions unless DOE determines that the information which supp the documentation is not complete and accurate in all material respects, as required by 10 CFR 820.11. This is consistent with the DOE enforcement provisions and policy in 10 CFR Part 820.	830, B, App A, E.2
3. DOE does not intend the adoption of the safety basis requirements to affect the existing quality assurance requirements or the existing obligation of contractors to comply the quality assurance requirements. In particular, in conjunction with the adoption of the safety basis requirements, DOE revised the language in 10 CFR 830.122(e)(1) to make clear that hazard controls are part of the work processes to which a contractor and other persons must adhere when performing work. This obligation to perform work consistent with hazard controls adopted to meet regulatory or contract requirements existed prior to the adoption of the safety basis requirements and is both consistent with and independent of the safety basis requirements.	830, B, App A, E.3
4. A documented safety analysis must address all hazards (that is, both radiological and nonradiological hazards) and the controls necessary to provide adequate protection to the public, workers, and the environment from these hazards. Section 234A of the Atomic Energy Act, however, only authorizes DOE to issue civil penalties for violations of requirements related to nuclear safety. Therefore, DOE will impose civil penalties for violations of the safety basis requirements (including hazard controls) only if they are related to nuclear safety.	830, B, App A, E.4

F. Documented Safety Analysis

1. A documented safety analysis must demonstrate the extent to which a nuclear facility can be operated safely with respect to workers, the public, and the environment.	830, B, App A, F.1
2. DOE expects a contractor to use a graded approach to develop a documented safety analysis and describe how the graded approach was applied. The level of detail, analysis, and documentation will reflect the complexity and hazard associated with a particular facility. Thus, the documented safety analysis for a simple, low hazard facility may be relatively short and qualitative in nature, while the documented safety analysis for a complex, high hazard facility may be quite elaborate and more quantitative. DOE will work with its contractors to ensure a documented safety analysis is appropriate for the facility for which it is being developed.	830, B, App A, F.2
3. Because DOE has ultimate responsibility for the safety of its facilities, DOE will review each documented safety analysis to determine whether the rigor and detail of the documented safety analysis are appropriate for the complexity and hazards expected at the nuclear facility. In particular, DOE will evaluate the documented safety analysis by considering the extent to which the documented safety analysis (1) satisfies the provisions of the methodology used to prepare the documented safety analysis and (2) adequately addresses the criteria set forth in 10 CFR 830.204(b). DOE will prepare a Safety Evaluation Report to document the results of its review of the documented safety analysis. A documented safety analysis must contain any conditions or changes required by DOE.	830, B, App A, F.3

4. In most cases, the contract will provide the framework for specifying the methodology and schedule for developing a documented safety analysis. Table 2 sets forth acceptable methodologies for preparing a documented safety analysis. 830, B, App A, F.4

Table 2

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(1) The contractor responsible for a DOE reactor may prepare its documented safety analyses by using the method in U.S. Nuclear Regulatory Commission Regulatory Guide 1.70, Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants, or successor document.

(2) The contractor responsible for a DOE nonreactor nuclear facility may prepare its documented safety analyses by using the method in DOE-STD-3009, Change Notice No. 1, January 2000, Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports, July 1994, or successor document.

(3) The contractor responsible for a DOE nuclear facility with a limited operational life may prepare its documented safety analyses by using the method in either: (1) DOE-STD-3009, Change Notice No. 1, January 2000, or successor document, or (2) DOE-STD-3011-94, Guidance for Preparation of DOE 5480.22 (TSR) and DOE 5480.23 (SAR) Implementation Plans, November 1994, or successor document.

(4) The contractor responsible for the deactivation or the transition surveillance and maintenance of a DOE nuclear facility may prepare its documented safety analyses by using the method in either: (1) DOE-STD-3009, Change Notice No. 1, January 2000, or successor document, or (2) DOE-STD-3011-94 or successor document.

(5) The contractor responsible for the decommissioning of a DOE nuclear facility may prepare its documented safety analyses by (1) Using the method in DOE-STD-1120-98, Integration of Environment, Safety, and Health into Facility Disposition Activities, May 998, or successor document; (2) Using the provisions in 29 CFR 1910.120 (or 29 CFR 1926.65 for construction activities) for developing Safety and Health Programs, Work Plans, Health and Safety Plans, and Emergency Response Plans to address public safety, as well as worker safety; and (3) Deriving hazard controls based on the Safety and Health Programs, the Work Plans, the Health and Safety Plans, and the Emergency Response Plans.

(6) The contractor responsible for A DOE environmental restoration activity that involves either work not done within a permanent structure or the decommissioning of a facility with only low-level residual fixed radioactivity may prepare its documented safety analyses by (1) Using the method in DOE-STD-1120-98 or successor document, and (2) Using the provisions in 29 CFR 1910.120 (or 29 CFR 1926.65 for construction activities) for developing a Safety and Health Program and a site-specific Health and Safety Plan (including elements for Emergency Response Plans, conduct of operations, training and qualifications, and maintenance management).

(7) The contractor responsible for a DOE nuclear explosive facility and the nuclear explosive operations conducted therein may prepare its documented safety analyses by developing its documented safety analysis in two pieces: (1) A Safety Analysis Report for the nuclear facility that considers the generic nuclear explosive operations and is prepared in accordance with DOE-STD-3009, Change Notice No. 1, January 2000, or successor document, and (2) A Hazard Analysis Report for the specific nuclear explosive operations prepared in accordance with DOE-STD-3016-99, Hazards Analysis Reports for Nuclear Explosive Operations, February 1999, or successor document.

(8) The contractor responsible for a DOE hazard category 3 nonreactor nuclear facility may prepare its documented safety analyses by using the methods in Chapters 2, 3, 4, and 5 of DOE-STD-3009, Change Notice No. 1, January 2000, or successor document to address in a simplified fashion: (1) The basic description of the facility/activity and its operations, including safety structures, systems, and components; (2) A qualitative hazards analysis and (3) The hazard controls (consisting primarily of inventory limits and safety management programs) and their bases.

(9) The contractor responsible for transportation activities may prepare its documented safety analyses by (1) Preparing a Safety Analysis Report for Packaging in accordance with DOE-O-460.1A, Packaging and Transportation Safety, October 2, 1996, or successor document and (2) Preparing a Transportation Safety Document in accordance with DOE-G-460.1-1, Implementation Guide for Use with DOE O 460.1A, Packaging and Transportation Safety, June 5, 1997, or successor document.

(10) The contractor responsible for transportation and onsite transfer of nuclear explosives, nuclear components, Navel nuclear fuel elements, Category I and Category II special nuclear materials, special assemblies, and other materials of national security may prepare its documented safety analyses by (1) Preparing a Safety Analysis Report for packaging in accordance with DOE-O-461.1, Packaging and Transportation of Materials of National Security Interest, September 29, 2000, or successor document and (2) Preparing a Transportation Safety Document in accordance with DOE-M-461.1-1, Packaging and Transfer of Materials of National Security Interest Manual, September 29, 2000, or successor document.

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5. Table 2 refers to specific types of nuclear facilities. These references are not intended to constitute an exhaustive list of the specific types of nuclear facilities. Part 830 defines nuclear facility broadly to include all those facilities, activities, or operations that involve, or will involve, radioactive and/or fissionable materials in such form and quantity that a nuclear or a nuclear explosive hazard potentially exists to the employees or the general public, and to include any related area, structure, facility, or activity to the extent necessary to ensure proper implementation of the requirements established by Part 830. The only exceptions are those facilities specifically excluded such as accelerators. Table 3 defines the specific nuclear facilities referenced in Table 2 that are not defined in 10 CFR 830.3. For purposes of Table 2: 830, B, App A, F.5

Table 3

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(1) Deactivation means the process of placing a facility in a stable and known condition, including the removal of hazardous and radioactive materials.

(2) Decontamination means the removal or reduction of residual radioactive and hazardous materials by mechanical, chemical, or other techniques to achieve a stated objective or end condition.

(3) Decommissioning means those actions taking place after deactivation of a nuclear facility to retire it from service and includes surveillance and maintenance, decontamination, and/or dismantlement.

(4) Environmental restoration activities means the process by which contaminated sites and facilities are identified and characterized and by which existing contamination is contained, or removed and disposed.

(5) Generic nuclear explosive operation means a characterization that considers the collective attributes (such as special facility system requirements, physical weapon characteristics, or quantities and chemical/physical forms of hazardous materials) for all projected nuclear explosive operations to be conducted at a facility.

(6) Nuclear explosive facility means a nuclear facility at which nuclear operations and activities involving a nuclear explosive may be conducted.

(7) Nuclear explosive operation means any activity involving a nuclear explosive, including activities in which main-charge, high-explosive parts and pits are collocated.

(8) Nuclear facility with a limited operational life means a nuclear facility for which there is a short remaining operational period before ending the facility's mission and initiating deactivation and decommissioning and for which there are no intended additional missions other than cleanup.

(9) Specific nuclear explosive operation means a specific nuclear explosive subjected to the stipulated steps of an individual operation, such as assembly or disassembly.

(10) Transition surveillance and maintenance activities means activities conducted when a facility is not operating or during deactivation, decontamination, and decommissioning operations when surveillance and maintenance are the predominant activities being conducted at the facility. These activities are necessary for satisfactory containment of hazardous materials and protection of workers, the public, and the environment. These activities include providing periodic inspections, maintenance of structures, systems, and components, and actions to prevent the alteration of hazardous materials to an unsafe state.

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6. If construction begins after December 11, 2000, the contractor responsible for the design and construction of a new DOE nuclear facility or a major modification to an exis DOE nuclear facility must prepare a preliminary documented safety analysis. A preliminary documented safety analysis can ensure that substantial costs and time are not wasted in constructing a nuclear facility that will not be acceptable to DOE. If a contractor is required to prepare a preliminary documented safety analysis, the contractor must obtain I approval of the preliminary documented safety analysis prior to procuring materials or components or beginning construction. DOE, however, may authorize the contractor to perform limited procurement and construction activities without approval of a preliminary documented safety analysis if DOE determines that the activities are not detrimental to public health and safety and are in the best interests of DOE. DOE Order 420.1, Facility Safety, sets forth acceptable nuclear safety design criteria for use in preparing a preliminary documented safety analysis. As a general matter, DOE does not expect preliminary documented safety analyses to be needed for activities that do not involve sigr 830, B, App A, F.6

G. Hazard Controls

10 CFR 830, Safety Basis Requirements

1. Hazard controls are measures to eliminate, limit, or mitigate hazards to workers, the public, or the environment. They include (1) physical, design, structural, and engineering features; (2) safety structures, systems, and components; (3) safety management programs; (4) technical safety requirements; and (5) other controls necessary to provide adequate protection from hazards.	830, B, App A, G.1
2. The types and specific characteristics of the safety management programs necessary for a DOE nuclear facility will be dependent on the complexity and hazards associated with the nuclear facility and the work being performed. In most cases, however, a contractor should consider safety management programs covering topics such as quality assurance, procedures, maintenance, personnel training, conduct of operations, criticality safety, emergency preparedness, fire protection, waste management, and radiation protection. In general, DOE Orders set forth DOE's expectations concerning specific topics. For example, DOE Order 420.1 provides DOE's expectations with respect to fire protection and criticality safety.	830, B, App A, G.2
3. Safety structures, systems, and components require formal definition of minimum acceptable performance in the documented safety analysis. This is accomplished by first defining a safety function, then describing the structure, systems, and components, placing functional requirements on those portions of the structures, systems, and components required for the safety function, and identifying performance criteria that will ensure functional requirements are met. Technical safety requirements are developed to ensure the operability of the safety structures, systems, and components and define actions to be taken if a safety structure, system, or component is not operable.	830, B, App A, G.3
4. Technical safety requirements establish limits, controls, and related actions necessary for the safe operation of a nuclear facility. The exact form and contents of technical safety requirements will depend on the circumstances of a particular nuclear facility as defined in the documented safety analysis for the nuclear facility. As appropriate, technical safety requirements may have sections on (1) safety limits, (2) operating limits, (3) surveillance requirements, (4) administrative controls, (5) use and application, and (6) design features. It may also have an appendix on the bases for the limits and requirements. DOE Guide 423.X, Implementation Guide for Use in Developing Technical Safety Requirements (TSRs) provides a complete description of what technical safety requirements should contain and how they should be developed and maintained.	830, B, App A, G.4
5. DOE will examine and approve the technical safety requirements as part of preparing the safety evaluation report and reviewing updates to the safety basis. As with all hazard controls, technical safety requirements must be kept current and reflect changes in the facility, the work and the hazards as they are analyzed in the documented safety analysis. In addition, DOE expects a contractor to maintain technical safety requirements, and other hazard controls as appropriate, as controlled documents with an authorized users list.	830, B, App A, G.5
6. Table 4 sets forth DOE's expectations concerning acceptable technical safety requirements. As appropriate for a particular DOE nuclear facility, the section of the technical safety requirements on:	830, B, App A, G.6

Table 4

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(1) Safety limits will provide information on the limits on process variables associated with those safety class physical barriers, generally passive, that are necessary for the intended facility function and that are required to guard against the uncontrolled release of radioactive materials. The safety limit section describes, as precisely as possible, the parameters being limited, states the limit in measurable units (pressure, temperature, flow, etc.), and indicates the applicability of the limit. The safety limit section also describes the actions to be taken in the event that the safety limit is exceeded. These actions should first place the facility in the safe, stable condition attainable, including total shutdown (except where such action might reduce the margin of safety) or should verify that the facility already is safe and stable and will remain so. The technical safety requirement should state that the contractor must obtain DOE authorization to restart the nuclear facility following a violation of a safety limit. The safety limit section also establishes the steps and time limits to correct the out-of-specification condition.

(2) Operating limits will provide information on those limits which are required to ensure the safe operation of a nuclear facility. The operating limits section may include subsections on limiting control settings and limiting conditions for operation.

(3) Limiting control settings will provide information on the settings on safety systems that control process variables to prevent exceeding a safety limit. The limited control settings section normally contains the settings for automatic alarms and for the automatic or nonautomatic initiation of protective actions related to those variables associated with the function of safety class structures, systems, or components if the safety analysis shows that they are relied upon to mitigate or prevent an accident. The limited control settings section also identifies the protective actions to be taken at the specific settings chosen in order to correct a situation automatically or manually such that the related safety limit is not exceeded. Protective actions may include maintaining the variables within the requirements and repairing the automatic device promptly or shutting down the affected part of the process and, if required, the entire facility.

(4) Limiting conditions for operations will provide information on the limits that represent the lowest functional capability or performance level of safety structures, systems, and components required to perform an activity safely. The limiting conditions for operation section describes, as precisely as possible, the lowest functional capability or performance level of equipment required for continued safe operation of the facility. The limiting conditions for operation section also states the action to be taken to address a condition not meeting the limiting conditions for operation section. Normally this simply provides for the adverse condition being corrected in a certain time frame and for further action if this is impossible.

(5) Surveillance requirements will provide information on requirements relating to test, calibration, or inspection to assure that the necessary operability and quality of safety structures, systems, and components is maintained; that facility operation is within safety limits; and that limiting control settings and limiting conditions for operation are met. If a required surveillance is not successfully completed, the contractor is expected to assume the systems or components involved are inoperable and take the actions defined by the technical safety requirement until the systems or components can be shown to be operable. If, however, a required surveillance is not performed within its required frequency, the contractor is allowed to perform the surveillance within 24 hours or the original frequency, whichever is smaller, and confirm operability.

(6) Administrative controls will provide information on organization and management, procedures, recordkeeping, assessment, and reporting necessary to ensure safe operation of a facility consistent with the technical safety requirement. In general, the administrative controls section addresses (1) the requirements associated with administrative controls, (including those for reporting violations of the technical safety requirement); (2) the staffing requirements for facility positions important to safe conduct of the facility; and (3) the commitments to the safety management programs identified in the documented safety analysis as necessary components of the safety basis for the facility.

(7) Use and application provisions will provide information on the basic instructions for applying the safety restrictions contained in a technical safety requirement. The use and application section includes definitions of terms, operating modes, logical connectors, completion times, and frequency notations.

(8) Design features will provide information on Design features of the facility that, if altered or modified, would have a significant effect on safe operation.

(9) Bases appendix will provide information on the reasons for the safety limits, operating limits, and associated surveillance requirements in the technical safety requirements statements for each limit or requirement shows how the numeric value, the condition, or the surveillance fulfills the purpose derived from the safety documentation. The primary purpose for describing the basis of each limit or requirement is to ensure that any future changes to the limit or requirement is done with full knowledge of the original intent or purpose of the limit or requirement.

H. Unreviewed Safety Questions

1. The USQ process is an important tool to evaluate whether changes affect the safety basis. A contractor must use the USQ process to ensure that the safety basis for a DOE nuclear facility is not undermined by changes in the facility, the work performed, the associated hazards, or other factors that support the adequacy of the safety basis. 830, B, App A, H.1

2. The USQ process permits a contractor to make physical and procedural changes to a nuclear facility and to conduct tests and experiments without prior approval, provided these changes do not cause a USQ. The USQ process provides a contractor with the flexibility needed to conduct day-to-day operations by requiring only those changes and tests with a potential to impact the safety basis (and therefore the safety of the nuclear facility) be approved by DOE. This allows DOE to focus its review on those changes significa safety. The USQ process helps keep the safety basis current by ensuring appropriate review of and response to situations that might adversely affect the safety basis. 830, B, App A, H.2

3. DOE Guide 424.X, Implementation Guide for Addressing Unreviewed Safety Question (USQ) Requirements, provides DOE's expectations for a USQ process. The contractor must obtain DOE approval of its procedure used to implement the USQ process. 830, B, App A, H.3

I. Functions and Responsibilities

1. The DOE Management Official for a DOE nuclear facility (that is, the Assistant Secretary, the Assistant Administrator, or the Office Director who is primarily responsible for the management of the facility) has primary responsibility within DOE for ensuring that the safety basis for the facility is adequate and complies with the safety basis requirements of Part 830. The DOE Management Official is responsible for ensuring the timely and proper (1) review of all safety basis documents submitted to DOE and (2) preparation of a safety evaluation report concerning the safety basis for a facility. 830, B, App A, L.1

10 CFR 830, Safety Basis Requirements

2. DOE will maintain a public list on the internet that provides the status of the safety basis for each hazard category 1, 2, or 3 DOE nuclear facility and, to the extent practic provides information on how to obtain a copy of the safety basis and related documents for a facility.	830, B, App A, L.2